

DOCKET NO.: ASZN0039-101 (A1807-2P US)**PATENT****In the Claims:**

The current status of all claims is listed below and supercedes all previous lists of claims.

Please cancel claims 1-42 without prejudice to their presentation in another application, add new claims 43-67 as follows:

1-42. (canceled).

43. (new) A substantially pure protein comprising SEQ ID NO:3.

44. (new) The protein of claim 43 wherein the protein consists of SEQ ID NO:3.

45. (new) A substantially pure protein comprising SEQ ID NO:3 and further comprising amino acid additions, deletions, or substitutions in SEQ ID NO:3 that do not substantially alter the binding properties of the protein.

46. (new) A composition comprising the protein of claim 43.

47. (new) A composition comprising the protein of claim 45.

48. (new) A method of producing an antibody that binds to a protein of claim 43 comprising:

injecting the protein of claim 43 into an animal;

fusing a spleen cell from the animal with a myeloma cell to produce a cell that produces the antibody.

49. (new) The method of claim 48 wherein the animal is a mouse.

50. (new) The method of claim 48 wherein the antibody binds preferentially to the protein.

DOCKET NO.: ASZN0039-101 (A1807-2P US)**PATENT**

51. (new) A method of producing an antibody that binds to a protein of claim 45 comprising:

injecting the protein of claim 45 into an animal;

fusing a spleen cell from the animal with a myeloma cell to produce a cell that produces the antibody.

52. (new) The method of claim 51 wherein the animal is a mouse.

53. (new) The method of claim 51 wherein the antibody binds preferentially to the protein.

54. (new) A method of assaying a test compound for its ability to bind to a protein of claim 43 comprising:

incubating a source containing the protein of claim 43 with the test compound and a ligand known to bind to the protein of claim 43; and

determining whether the ligand binding to the protein of claim 43 is displaced by the test compound.

55. (new) A method of assaying a test compound for its ability to bind to a protein of claim 45 comprising:

incubating a source containing the protein of claim 45 with the test compound and a ligand known to bind to the protein of claim 45; and

determining whether the ligand binding to the protein of claim 45 is displaced by the test compound.

56. (new) A method for determining if a test compound is an agonist of the protein of claim 43 comprising:

incubating a cell expressing the protein of claim 43 with the test compound; and

determining whether the test compound causes a statistically significant increase in either intracellular adenylyl cyclase activity or the intracellular concentration of calcium.

DOCKET NO.: ASZN0039-101 (A1807-2P US)**PATENT**

57. (new) A method for determining if a test compound is an agonist of the protein of claim 45 comprising:

incubating a cell expressing the protein of claim 45 with the test compound; and
determining whether the test compound causes a statistically significant increase in either intracellular adenylyl cyclase activity or the intracellular concentration of calcium.

58. (new) A method for determining if a test compound is an antagonist of the protein of claim 43 comprising:

incorporating a DNA molecule encoding the protein of claim 43 into an expression vector so that it is operably linked to a promoter;

transfecting the expression vector into a host;

selecting transfected cells that have constitutively activated proteins of claim 43 as evidenced by either a statistically significant increase in intracellular adenylyl cyclase activity or intracellular calcium concentration;

contacting the selected transfected cells with the test compound; and

determining if the test compound causes a statistically significant decrease in adenylyl cyclase activity or calcium concentration relative to control cells not contacted with the test compound.

59. (new) A method for determining if a test compound is an antagonist of the protein of claim 45 comprising:

incorporating a DNA molecule encoding the protein of claim 45 into an expression vector so that it is operably linked to a promoter;

transfecting the expression vector into a host;

selecting transfected cells that have constitutively activated proteins of claim 45 as evidenced by either a statistically significant increase in intracellular adenylyl cyclase activity or intracellular calcium concentration;

contacting the selected transfected cells with the test compound; and

DOCKET NO.: ASZN0039-101 (A1807-2P US)**PATENT**

determining if the test compound causes a statistically significant decrease in adenylyl cyclase activity or calcium concentration relative to control cells not contacted with the test compound.

60. (new) A method for assaying a test compound for its ability to alter the activity of the protein of claim 43 comprising:

incubating a source containing the protein of claim 43 with the test compound and a ligand that binds with specificity to the protein of claim 43; and

determining whether the test compound increases or decreases intracellular calcium concentration in response to the ligand.

61. (new) A method for assaying a test compound for its ability to alter the activity of the protein of claim 45 comprising:

incubating a source containing the protein of claim 45 with the test compound and a ligand that binds with specificity to the protein of claim 45; and

determining whether the test compound increases or decreases intracellular calcium concentration in response to the ligand.

62. (new) A method for assaying a test compound for its ability to alter the expression of the protein of claim 43 comprising:

growing cells expressing the protein of claim 43;

collecting the cells; and

comparing the expression of the protein of claim 43 in the cells exposed to the test compound with control cells grown under essentially identical conditions but not exposed to the test compound.

63. (new) The method of claim 62 wherein the cells expressing the protein are cells transformed with an expression vector comprising a polynucleotide sequence encoding a protein with an amino acid sequence comprising SEQ ID NO:3.

DOCKET NO.: ASZN0039-101 (A1807-2P US)

PATENT

64. (new) The method of claim 62 wherein the test compound is an oligonucleotide at least 15 nucleotides in length and comprising a sequence complementary to SEQ ID NO:4.

65. (new) A method for assaying a test compound for its ability to alter the expression of the protein of claim 45 comprising:

growing cells expressing the protein of claim 45;

collecting the cells; and

comparing the expression of the protein of claim 45 in the cells exposed to the test compound with control cells grown under essentially identical conditions but not exposed to the test compound.

66. (new) The method of claim 65 wherein the cells expressing the protein are cells transformed with an expression vector comprising a polynucleotide sequence encoding the protein.

67. (new) The method of claims 65 wherein the test compound is an oligonucleotide at least 15 nucleotides in length and comprising a sequence complementary to a polynucleotide sequence encoding the protein.